

Introduction to Applied and Pre-calculus Mathematics 20S

Teacher: Ms. Pam Whicker

Email: pwhicker@wsd1.org

Blog: <https://pwhicker.wikispaces.com/> (assignments, info, etc.)

Textbook: Foundations and Pre-calculus Mathematics 10 (Pearson)

Supplies: scientific calculator, lined paper, pencils, eraser, highlighter(s), red (or coloured) pen, ruler, protractor, graph paper, binder



TOPICS (please see p. 2 for further information)

The course is split into seven units:

Chapter 1	Measurement	Chapter 5	Relations and Functions
Chapter 2	Trigonometry	Chapter 6	Linear Functions
Chapter 3	Factors and Products	Chapter 7	Systems of Equations
Chapter 4	Roots and Powers		

EVALUATION

Each term will be valued on:	Tests, quizzes,:	70%
	Class work mental math, accountability checks, :	30%
Final Mark	Course work:	70%
	Final Exam:	30%

EXPECTATIONS

- ◆ We recommend a **minimum final mark of 70%** in **Gr.9** mathematics and **good work habits** to do well in this course.
- ◆ You must be prepared for the **heavy workload**; there will be homework every day.
- ◆ If an **absence is planned** (school event, appointment, holiday, etc.), you must make arrangements with me **before** you are away regarding missed lessons, assignments, evaluations, etc. If the absence is unforeseen (illness, family emergency, etc.), arrangements must be made the **day you return**.
- ◆ If you are away for any reason, it is ***your responsibility*** to **find out what you missed**, and get caught up. The wiki (address above) is usually a good source to check.
- ◆ **Tests and quizzes** will be scheduled at regular intervals. You will be given advanced notice of a test date. If a test is missed and the absence is verified, you will be able to complete the test upon returning to class (if the absence is planned, please discuss the test time before your absence). If an absence is ***not verified*** and you miss a test, ***you may receive a zero***. To help you and your parents monitor your progress, you will be required to have your parents **sign your test** within a set amount of time.
- ◆ The tests/exams you complete and the assignments you submit as evidence of learning must be your **own work**. **Cheating and plagiarism will not be tolerated.** (as per provincial guidelines)
- ◆ There will be consequences for **not completing** assignments that provide evidence of learning or for submitting those assignments **late**. If **work is late or missing**, strategies will be applied that may include **marks being deducted**. (as per provincial guidelines)
- ◆ It is your responsibility to get as much **help** as needed in and out of class time. There is extra help for math students at Kelvin **every day at lunch** (and also sometimes in room 12 at 8:40).

Grade 10 – Introduction to Applied and Pre-calculus – Specific Outcomes

- | | | |
|-----------|--|---|
| 10I.M.1. | Solve problems that involve linear measurement, using: | <ul style="list-style-type: none"> • measurement strategies • SI and imperial units of measure • estimation strategies |
| 10I.M.2. | Apply proportional reasoning to problems that involve conversions within and between SI and imperial units of measure. | |
| 10I.M.3. | Solve problems, using SI and imperial units, that involve the surface area and volume of 3-d objects, including: | <ul style="list-style-type: none"> • right cones • right cylinders • right prisms • right pyramids • spheres |
| 10I.M.4. | Develop and apply the primary trigonometric ratios (sine, cosine, tangent) to solve problems that involve right triangles. | |
| 10I.A.1. | Demonstrate an understanding of factors of whole numbers by determining: | <ul style="list-style-type: none"> • prime factors • greatest common factor • least common multiple • square root • cube root |
| 10I.A.2. | Demonstrate an understanding of irrational numbers by: | |
| | <ul style="list-style-type: none"> • representing, identifying, and simplifying irrational numbers • ordering irrational numbers | |
| 10I.A.3. | Demonstrate an understanding of powers with integral and rational exponents. | |
| 10I.A.4. | Demonstrate an understanding of the multiplication of polynomial expressions (limited to monomials, binomials, and trinomials), concretely, pictorially, and symbolically. | |
| 10I.A.5. | Demonstrate an understanding of common factors and trinomial factoring, concretely, pictorially, and symbolically. | |
| 10I.R.1. | Interpret and explain the relationships among data, graphs and contexts. | |
| 10I.R.2. | Demonstrate an understanding of relations and functions. | |
| 10I.R.3. | Demonstrate an understanding of slope with respect to rise and run | <ul style="list-style-type: none"> • line segments and lines • rate of change • parallel lines • perpendicular lines |
| 10I.R.4. | Describe and represent linear relations, using: | <ul style="list-style-type: none"> • words • ordered pairs • tables of values • graphs • equations |
| 10I.R.5. | Determine the characteristics of the graphs of linear relations, including the: | <ul style="list-style-type: none"> • intercepts • slope • domain • range |
| 10I.R.6. | Relate to their graphs linear relations expressed in: | <ul style="list-style-type: none"> • slope-intercept form ($y = mx + b$) • slope-point form ($y - y_1 = m(x - x_1)$) • general form ($ax + By + C = 0$) |
| 10I.R.7. | Determine the equation of a linear relation, given: | <ul style="list-style-type: none"> • a graph • a point and the slope • two points • a point and the equation of a parallel or perpendicular line • a scatterplot |
| 10I.R.8. | Represent a linear function, using function notation. | |
| 10I.R.9. | Solve problems that involve systems of linear equations in two variables, graphically and algebraically. | |
| 10I.R.10. | Solve problems that involve the distance between two points and the midpoint of a line segment. | |

A FEW TIPS FOR SUCCESS IN MATH

<http://www.csus.edu/nsm/successcenter/pass/pass%20pdfs/passmath%20success%20tips.pdf>

- ✓ Good **attendance** and **punctuality** is **essential**. Arrive to each class **on time** and **ready to work**. You can get behind very fast if you do not attend every class, or miss the lesson because you are late.
- ✓ Always **bring to class** a calculator, pencils, eraser, your notes, your homework, and your textbook.
- ✓ Take careful **notes** in class, copying the examples the way they are written. You can use these examples initially when doing homework questions to make sure you're showing work as shown in class.
- ✓ **Homework** from the previous day must always be completed and corrected. If you are given time in class to start the homework, use it. Ask questions as needed. Do not procrastinate! Do homework early and with as much time as possible to do it.
- ✓ Math builds on itself. **Do NOT skip material** you don't understand. Get help until you understand the material.
- ✓ Always **check your solutions** against those in the back of the book, highlight questions which give you trouble, and find out how to do them correctly.
- ✓ The best way to learn Math is to **practice, practice, practice**. There are many practice problems in your textbook, and they can be found online too. Every time you do a practice question, make sure you **check** to see you have the right answer.
- ✓ **Keep up with your homework, even if it is not collected**. It's your way to **make sure you understand the concepts** and have **mastered the skills**. **Do each question** and make sure you have the right answer. If your answer is not correct, **try to correct it**. **If you don't know how to do a question correctly, seek help.**
- ✓ Doing homework is also how you get **quicker and more confident** in your skills. You want to **practice until you can do the questions without looking at your notes and without help**. There are always more questions in the book that you can do if you need more practice and/or you can find questions online. (You can also ask the teacher.) Practice, practice, practice.
- ✓ Your teacher will get an idea if you have practiced enough through your marks on mental math, accountability checks, quizzes, tests and exams. **Doing homework and checking the answers is like your own self-evaluation or pre-test for these evaluations.**
- ✓ **Learn from your mistakes** in homework, quizzes, tests, exams, mental math, accountability checks.
- ✓ You will be evaluated as an **individual**. Despite the helpfulness of your friends, tutor, study group, or teacher, in the end your mark will be based upon your individual performance. **Be sure to "go solo" on a few questions/homework to make sure you understand the material.**

(please cut)

I've read and discussed this outline with my young person. Please complete and return this **bottom** part.

Student's Name:

(print)

(signature)

Parent/Guardian Name(s) :

(print)

(print)

Signature

(2nd signature optional)

Phone Numbers:

(home)

(home)

(work/cell)

(work/cell)

Parents' email(s):

